

ON
H A Y H A R V E S T,

A N D

The H A Y best adapted for that purpose.

A D D R E S S E D T O T H E

K I L B A R C H A N F A R M E R S O C I E T Y.

E D I N B U R G H;

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A D D R E S S E D T O T H E

K I L B A R C H A N F A R M E R S O C I E T Y,

N E I G H B O U R S,

I Wrote you about a year ago, upon the difficulties, and management of a Bad Harvest. I did not, at that time, think of the Hay Harvest. As you, however, are entitled to every hint which I can give, for your benefit, I hope you will accept of this, as a supplement to my former letter, and a new mark of my attention to your improvements, through whatever channel it may reach you. I would be fond, of being more generally useful to my country; but I am afraid of going beyond my depth. I know your customs, and am every day forming schemes to improve them; Should I attempt to write more at large, there are many places in Scotland, so far beyond us in culture and management, as might lead them to neglect any custom of yours, or hint of mine.

When I write to you, my Friends, of Hay Harvest, it must occur to you, that we have two seasons, which will pass here by that name. The *first* is, the season in which we cut and make our sown grass hays: the *second* is, that in which we cut and make our meadows or bog-hay, about a month or more after the former.

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We

We begin with the sown grafs. And here, as it is not only an object of public curiosity to know the different customs of Scotland, but particularly necessary, in order to understand any provincial writing, I shall take notice of the state of your husbandry in the West, with regard to sown grafs.

Many of you, my Neighbours, sow only ray-grafs upon your grounds; some, with more foresight, add a few pounds of white clover. The first only is intended for your hay crop; the second is designed, after the ray-grafs runs out, to sward your grounds with a better grafs than what the soil perhaps would produce of itself. For in your light grounds, you have great dependence on your milk cows and young cattle. If you are possessed of a deep and rich soil, it is not uncommon for you to sow from six to perhaps ten pounds of red clover. Even from this addition you do not expect much increase to your hay crop, unless the season has been favourable. But where the clover thrives, the after math is very great, sometimes I think superior to your first cutting. This however is commonly pastured in the later end of the year, when the natural grafs fails: Or, which is much safer for black cattle, and equally beneficial for horses, it is cut and carried green into the byre or stable. If it cannot be all overtaken in this way, a certain portion of the field is made into hay for immediate consumpt, after the green feed is gone: for it can scarce be dried for keeping, unless it is mixed with the straw of oats or barley; a custom which you have not yet adopted.

This, I imagine, may give a sufficient general notion of the practice in the West, with regard to sown grafs. In other places the management may be different. It is common in England, and the East of Scotland, to sow large fields of red clover alone; perhaps chiefly as a preparative for future tillage. Indeed, some of our grafs fields in this neighbourhood have been broke up with great success, in the very luxuriance of the after-math. But this practice has not as yet got into common use.



I have been indeed told long ago, that the ray-grafs had loft its reputation in England ; and therefore, if their farmers defign to lay down a field for continuing in grafs, they ufe the natural grafs-feeds rather than any other. Indeed, upon their plan of husbandry, this may be requifite, to make a thick and lafting cover to the ground. Their constant cropping of their grounds for many years together, with the intervals of fummer fallowing and hoeing, may deftroy fo effectually the natural grafs, as would leave very little cover on the ground, when the ray-grafs and clover wears out. It is not fo with us. Though upon the introduction of clover and ray-grafs, fome of our gentry fpared no coft, not even a fummer fallow, to produce clean and large crops of hay ; yet they have not been imitated, nor have they themfelves perfevered ; though nothing pays a fallow better than grafs, or fuch fmall feeds. Our grounds are therefore in general laid down foul enough ; which allows the natural grafs to take place, fooner fometimes than we wifh for it. I am therefore inclined to continue the ufe of ray-grafs, with a mixture of red and white clover. Thefe do very well with us for a crop or two of hay ; and I fee no great need for our being at great pains, in collecting the natural grafs feeds, even for our grounds that are to lie, till our better culture fhall make it more needful than it is at prefent.

When a particular practice depends upon a variety of circumftances, in any plan of husbandry, it is improper to make partial encroachments on it, unlefs we mean to reform the whole.

I have however another, and a more important end in view, when I wifh to continue the ray-grafs in ufe, preferable to red clover, or natural grafs : It is eafier to make than any other hay whatever. In all our Englifh writers, I obferve, they find greater difficulty in managing their hay, than any other crop ; at leaft they exprefs more anxiety for good weather at that feafon, than any other. This has oft amazed me, who, living
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in an unfavourable climate, never found difficulty, nor felt anxiety on that account. I have been therefore ready to impute their difficulties, either to bad management, or to a too great attachment to red-clover alone, or to natural grass enriched and softened with dung; both which are more difficult to manage than if it were ray-grass, or ray-grass with a small mixture of the clovers. A course of twenty years experience, without the least loss or hazard, either of hay or seed, entitles me to say so much; and to recommend both the ray-grass and the following method of managing it.

But before I enter upon the management itself, in regard to the influence that hearsay and prejudice have upon many in your rank of life, I cannot conclude this recommendation of ray-grass, without taking notice of one objection against it; which is, that it wears out the soil as much as any corn crop does. But, having heard the objection near twenty years ago, and with this addition to give it weight, viz. that it had been long made against it in England itself; I then instantly resolved to be at a point with it: Having therefore the year before cut off an acre of ground from a neighbouring field, for the purpose of trifling experiments, I now put it to this use. I sowed both the field and it with ray-grass and clover, upon a similar dressing: I cut the field but once, and pastured it for three years more: I cut the acre all the four years successively: And when on the fifth year, I broke up both for tillage, I found the oats equally luxuriant: I even found my fourth crop of hay, upon the single acre, not much diminished from the former crops, as the natural grass supplied the gradual decrease of the ray grass and clover. And my only inconvenience was, that the superior proportion of natural grass incommoded me a little in that management, which I mean to recommend. From this trial I was sufficiently certified, that, in my light soil at least, there was nothing worth my care in the foregoing objection. One indeed has reason to suspect, that fashion, the most capricious of all tyrants, may get into our
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husbandry, as well as our dress. The honest farmer, therefore, has equal reason perhaps to guard himself against the fondness for novelty and change; as against the bigotted attachment to old custom.

As I observed formerly, that there are seasons for hay harvest; so, to my less attentive neighbours, I here observe, that there are two seasons for cutting ray-grass itself: which, if they can help it, they should never suffer to be confounded. There is first its virgin state. For if they intend the field or any part of it for their own consumpt; or even, if they do not like the appearance of mixture in the seed, and incline not to save it, the hay should be cut, when the field is generally in blossom. I think it a loss to myself to delay the mowing beyond that period. For if the seed is once impregnated with the meal of the flower, it comes on so fast in that season, that the hay itself is apt to spend too much of its virtue in ripening and filling the seed: And the seed, which, had it remained on the straw, was alone able to have supplied that waste in the hay, is apt to be shaken off in the handling and using of it. A prudent farmer, says Mr TULL, should never suffer any of this early cutting to go to market; both because it should save him a great deal of oats, and, at the same time, it will not in the market bring him a price proportioned to its intrinsic value, or to the value of the seed which he sacrificed to obtain it. I have constantly kept this virgin-hay for my own use, and have learned, from experience, to esteem it beyond my thrashed hay.

The second period of cutting ray-grass is, when its seed is just so ripe as not to shake off the straw, till it is thrashed in the field. For here the intention is to save the seed as well as the hay. The rule which I first observed, for judging its ripeness, was, biting the seed through with my teeth, in different parts of the field. But I was taught an easier and equally certain method of ascertaining the ripeness, by an East Country Farmer that long resided in the West: and to this ingenious

nious man, I owe much of the little knowledge I have in works of husbandry. When the field was dry, he took off his hat, and struck the edge of its crown against the growing ray-grass; and if five or six seeds fell into the bottom of his hat, it was then, he said, ready for any three or four days continued work. This rule I have found from experience to be sure enough. For if the weather is good during that time, the seed will be generally, about a fourth or fifth part heavier, than what we get from England; which is the medium of ripeness that I think safest upon the whole. If it is too thin and light, it will not vegetate so uniformly: If it is too full and hard, it cannot without loss be handled at all. And whatever others may think, my opinion is, that some little nicety in attending to the above particulars, is of some consequence; for if I have not been oft mistaken, many pounds have been lost on several fields, within my observation, by such as despised the attention requisite.

As the management for saving ray-grass hay is the same, whether it be cut in its virgin state, or when the seed is ripened; we shall follow the steps usual in the last case, which will include the thrashing operation.

The first work is mowing and lap-cocking, both of which are performed in one day; and, with respect to any part of the field, nearly in one minute.

The second work is thrashing and tramp-rucking, which are also performed on the same day. And I will venture to say, that as the hay is in a state of absolute safety, from the time it is put in lap-cock, and for several weeks afterwards; so I may also affirm it is in equal safety, for months, from the time it is put in tramp-rucks. And, if there is not a minute lost between the cutting and cocking, and there needs not an hour be lost between the thrashing and rucking, I cannot see how there can be any risk of the hay; unless a bad day is chosen for these several operations, and the work itself continued under the very rain.

For

For the lap-cock operation, it is necessary to provide every pair of scythes with three followers, boys or girls from fourteen to eighteen or more years. Two of them are employed in cocking, and one of them is employed in raking between the cocks.

The manner of conducting the whole is as follows : After the mowers have got about six yards of swath, so as there can be no danger of hurt from the ends of their scythes, the cockers begin ; first by gathering up in their arms as much of the swath as will make a cock, following sideways after the mowers as they gather it ; then they shake it into a heap, as neatly as they can, upon the end of the swath where they left off gathering. This they do chiefly with one hand, or if both are employed, it is done alternately, all along endeavouring to make the straws fall across each other, that they may bind the mass together every way. This heap the cocker presses down quickly, but gently with one hand, and immediately grasps the whole to her bosom, turning both sides away from her at the same instant. This position being secured with one hand, the other is employed in folding over the upper edge of the heap in the same manner : and this position being also secured as above, the loose hand is employed in folding back a part of what hangs downward, which reduces that lower side to the narrowness of a tail ; and this at last is also folded under the cock, as it is laid upon the ground ; for the cocker steps backward, drawing that narrow tail along the stubble, and even binding it by a gentle pressure on the ground, as the cock is laid down : And this finishes the operation of lap-cocking

The lap-cock has five folds, and when well made, it has the appearance of a round ball, flattened a little beneath. It may be about a foot high, and eighteen inches broad. If it assumes an oval figure, there is no great matter, as the end of it will always stand to the wind. But this shape is acquired by giving too little pressure in laying it down, which does not bind in the
tail

tail enough; and therefore it may be easily corrected at pleasure. The crossing of the grafs straws on the surface, gives it the appearance of net-work, or rather of an old fashioned warp-clew, before the babbins were invented for warping; only with a third part cut away, for a flat side to ly upon.

If in shaking the hay at first upon the heap, both hands are employed together, without sufficient care to let the whole fall upon the center of the heap, then it makes two little hillocks a top, which, after they are formed into a cock, are apt, for want of sufficient cohesion, to separate, and let the rain into the heart of the cock. If the straws of grafs fall not in a cross direction, but rather in parallel lines, the same effect follows; it is apt to open, or to let down its out sides (especially if not folded up lightly) in the form of a tea-cup, turned down upon a tea saucer. These appearances are ugly, and their effects bad; for the rain gets either into the cock, or into what I called the tea saucer, which by lying flat upon the ground is soon blackened; or if the drought continues, it is parched and discoloured, by having too much surface exposed to the sun. Last of all, from some of the foregoing causes, sometimes the ends of the upper straws start up, and lye flat upon the head of the cock, like an old fashioned straw-hat; and the first puff of wind blows them off. If this appearance discovers itself immediately, the cocker whips it off, and carries it on to the next cock; but if this is not done, it spoils the look of the field, and some small part of the hay. Let the cocker therefore shake the hay well, and with one hand at a time, moving softly half round the heap, and backwards to her place, during the shaking; in order to make the straws cross each other in all directions, as they fall: Then let her grasp and fold it up lightly, and press it to its roundness, as it is laid upon the ground: And thus the work is done in taste, and with good effect. The operation, like every other manoeuvre, may seem tedious in the description; but, when learned, the execution is instantaneous.

After

After this account of the lap-cocking, nothing more needs to be said, but that the work be carried on after the mowers to the end of the swaths ; and if any thing is left there, let it be raked to the side of the growing hay, where it will be taken up next time. The raker, as he follows the cockers, sometimes gathers a little heap before him ; but this, when it begins to be bulky, is taken off his hand by the nearest cocker, and so carried on to the next cock. So that if a clean place is chosen to set down the cocks upon, and the raker is dextrous in cleaning the places, the field is left perfectly neat, without any thing to hurt the eye. It is even pleasant to see, with what regularity and activity the work goes on, every one pushing another. The mowers are loth to be overtaken, and therefore earnestly push forward : Their followers, loth to be left behind, hurry after them ; sometimes also running backwards the whole length of the cutting, that they may enjoy a minute's rest, while the scythes are a sharpening. Nor does the labour thus divided, seem to be in the least disproportioned, unless the grass be very thin. Then indeed the mowers and cockers have it in their power, to run away with the work, and leave the raker ; but, for this reason, the strongest and nimblest of the followers, is commonly put to the rake ; or they take it by turns, to lighten the heavy burden.

When ray-grass hay is put up in this fashion, it will endure a long continued rain, without being hurt. I have had it under fourteen days and nights rain, without the least loss. If the farmer will take up a well made cock, half an hour after a heavy shower, he will be convinced, when he finds how light and dry it is. The moment therefore that his field is cut, he is at ease for a time, being almost assured of finding a good day for thrashing it, before it can run any hazard.

In the mean time, if the weather be favourable, and his field open to its influence, the farmer may take up his virgin hay, in five or six days from the cutting, and put it in tramp-rucks, of a hundred or a hundred and twenty stone.

And no other preparation is necessary for this, but to turn up the lap-cock bottoms before breakfast, if those parts should have got a dampness from the ground, with which they were in contact: and even this precaution is chiefly necessary, after the ground has been wet some time, or the rucking delayed beyond its usual term.

That field, or part of the field, which was reserved for seed, may, in favourable weather, be taken up out of the lap-cocks, in four or five days after cutting; provided the thrashing be performed in the field. Nor is it even necessary, when the thrashing goes on immediately, to turn up the bottoms in the morning: For if the day itself is good, the airing which they receive in carrying, thrashing, shaking out the seed, and in the whole work of rucking, is fully sufficient to take off any coldness contracted by lying on the ground. But, if late rains have made it necessary to turn the cocks, the farmer must himself judge of this; and the operation is by no means tedious.

You have now, my good Friends, been witnesses to the lap-cocking near twenty years in this neighbourhood; yet you have not generally followed the example. Some of you continue to spread out your hay to the sun; others of you sheaf and stook what you design for seed, as you do your corns: and though we have conversed sometimes upon this subject; yet hitherto we have none of us convinced another. I would therefore beg your attention to the few following remarks upon these customs.

The custom of spreading out hay to the weather in the day time, and gathering it up at night, till it is well; though too generally practised in England itself, I must disapprove of, in every view which I can take of it, save one; and that is, when the intention is to leave the seed upon the ground, in order to thicken the crop next year. The proverb indeed says, "Make hay while the sun shines." But if the maxim is taken literally, it is several ways pernicious. The apothecary,
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who means to preserve the good qualities of his medical herbs, dries them in the shade, and would esteem them lost if exposed to the sun but for a day. Is it then possible to expose hay to a hot sun, for two or three days, without evaporating most of its good qualities? It is scarcely to be thought. If on the other hand, the weather should happen to break while the hay is thus spread out, pray what becomes of the hay-maker, not to speak of the hay? I need not describe the miserable wretch, or paint his situation: He himself must feel it. If he intends to thrash the hay, made in that fashion for seed; why, it is gone. Let him but weigh, and examine the rakings of a field, and then he will know, what effects the dragging of his hay through a close stubble must have upon it. I never could rate the loss of seed in this way, at less than thirty shillings an acre: and if the farmer can count, that is at least thirty pounds sterling, upon a twenty acre field. I am ashamed to see this money thrown away, by such as can both think and figure. Were this sum stolen from them, would they not regret the loss, and resent the injury? The only apology that I can make for them is but a poor one; having never perhaps received money for grass-seeds, they are not in use to value that article, as they do other grain. I have even known the virgin hay itself suffer in the same manner. For though it is not designed for thrashing, yet is it often cut so late, as to have much of its seed ripened, and shaken out by the above management. Had it been preserved upon the straw, its own good quality might have compensated that waste, which the hay made of itself, in producing and filling it. The last objection which I have against this method of making ray-grass hay, is its attendance and expence. Indeed nothing can be more fatal to the farmer, than his being at double expence in retaining a pernicious, or even a dangerous custom; when he might have adopted a cheaper, safer, and better. If farmers however will suffer their ray-grass seed to fall upon the field, whether by negligence or design, I could

could wish they were prepared to adopt the improvement, celebrated by Mr YOUNG, upon the Marquis of Rockingham's farm ; which is, to give the field a top dressing from the max-hill, above the shaken seed. This might assist it to vegetate, and both thicken the grass, and improve the ground for a succeeding crop. But until we are more in use of preparing such dressings for our grounds, it will be our advantage to take care of our seed for the market.

The other method of winning ray-grass hay, is bundling it up in sheaves, and stooking it, as we do corn. This method is only used when we design it for seed. I must indeed own, that the stooking of ray-grass will preserve it a long time from the injuries of the weather. But as it cannot so soon prepare the hay as the lap-cock, it must run a greater risk of meeting with such injuries, during the long time it is out. As was observed to you in my last, the oats, which are small in their straw, and full of grass, are the most difficult to win : So I now observe, that the matter is not much mended, when the whole sheaf is grass, even though it be ray-grass. Accordingly, I have seen ray-grass stooks, standing on some fields to the west of us, long after the corns about them were reaped ; and I have seen them so much blackened in their colour, that I could scarce tell what was on the field, till I drew very near, and knew the ground by the stubble. Nor do I mention this disagreeable appearance, as a singularity ; It has many times occurred to me, and as oft pained me. I am at a loss to account for the long continuance of this practice, in a neighbourhood that has as long presented objects of a better oeconomy. I have indeed been told by some, that they can sell their hay as dear as I can mine ; and when I urge this point, they say, perhaps truly, that there are some inn-keepers not so fond of the hay which horses are over fond of. I hope there are few such, if any at all ; for I should be sorry, if the sloth of one set of men received protection from the infidelity of another. Sure it cannot be the case in
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great towns, where gentlemen, who love their horses, will chuse the best hay for them, as well as the best accommodation for themselves. Others indeed candidly own, that being accustomed to the practice of binding and stooking, in which, with proper attention, they have hitherto been successful; they cannot give themselves the trouble of introducing the lap-cock method among their servants; especially, as they apprehend it to be no cheaper than their own. To such I would only observe, that if two mowers at 1 s. 6 d. each, and three cockers at 6 d. each, will finish two acres a day, at 4 s. 6 d. I can scarce conceive a cheaper method of working as much ground; especially if both hay and seed are secured by it. I have indeed no personal experience of the method of binding, and stooking after the scythe: But, from what I have generally seen of this practice in other hands, it appears to me, that greater hazard is run, and more labour bestowed upon it, than in the lap-cock way. I do indeed remember, to have enquired into the expence of reaping corns by the scythe in England, above ten years ago; with intention to have introduced the practice here, if I found it advantageous: and by all the information I could receive from our travelling chapmen, who I found had been struck with the novelty, and had even enquired into the expence, I never could make it less than four shillings the Scotch acre, or the five roods English; which is near double the charge of lap-cocking. At present, when I suppose two scythes, and two Scots acres wrought, I can yet bring it no lower, considering the number of followers, and the nature and expence of their work. Such of my neighbours as have given occasion for this minuteness, can surely tell, upon due reflection, what is the real expence of binding and stooking ray-grass: And if they find it greater than what I have stated the lap-cocking, they will both be so candid as to own it; and so prudent as to desert a losing plan, and even so honest as to give one example more of a better oeconomy.

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The only objections worth notice, that have occurred to me, against the lap-cocking, are two.

The *First* is, That it exposes a great deal of surface to the sun; which in clear weather some think may discolour it. This however cannot be compared to the scorching which it gets, by being spread out, and turned up on all its sides to his beams. For here the whole effort seems to be, to burn up every straw. Nor do I think it comparable to the long time, in which it may suffer the sun's influence, while in the stook. For, if it is considered, that, in fine weather, hay for seed seldom lies in the lap-cock above four or five days, and that the sun beams do not penetrate beyond the outside, while all within remains perfectly green; one might venture to say, without experience, that the hay cannot be hurt. This indeed is the truth, and the first trial will confirm it. No method preserves the colour better than the lap-cock; for when it is mixed by the thrashing and shaking, the nicest eye cannot discern upon it the least mark of sun burning.

The *second* objection is, that the lap-cock is not fit for all sorts of hay. Well, and what if it should not? ought it not therefore to be used where it will answer? In this view surely it was, that I recommended ray-grass with a proper mixture of clover, as what we might infallibly depend on, with the lap-cock management. But not to suffer you to cheat yourselves out of a good practice, from imagined difficulties; allow me to add, that if you hesitate on account of too great a proportion of red clover, or of natural grass; you have no more to do, but to suffer it to lie in the swath, where it is safe, for a day or two: and with this short interruption, the lap-cocking may go on as before. This I have often done with good success. Last of all, I can assure the public, that I have seen the softest grass perfectly made by lap-cocks, even in thickets and close places; and that only by making them of a smaller size, and suffering them to lye a sufficient time. I have even employed them for winning short pease, with excellent effect. And
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Have therefore frequently wished, to have carried the use of them into the common meadows. But my own meadows being made up, in some places of rushes and spritts, which were too stubborn for that work ; and in other places of such short soft grafs, as would not be made to stick together in a ball, I was obliged to give up the scheme for myself. I still however, would recommend the trial, to such of my neighbours as can better practise it.

It is now time we were thrashing out our ray-grafs seed, if you are not already wearied with what is past. But having been at full pains to fix the capital point, the remainder may be shortened.

After the ray-grafs cocks, intended for thrashing, have been exposed four or five days in good weather ; or if bad weather has fallen, and delayed the work, then, on the first good and promising day that casts up, I prepare for thrashing in the field.

Those who have convenience within doors, and perhaps none for thrashing without, carry their hay to the barn ; and there thrash it at leisure. But if I can find a good day, at any time within three weeks of the lap-cocking, I prefer the field, for the following reasons.

1st, A clear good day greatly assists the thrashing work, and contributes also to mend every part of the hay that needs drying. 2dly, I chuse to keep all my barn room for spreading out my feed, nothing being so much in danger from heating as new thrashed hay seed. 3dly, It is an essential part of my plan, in the management of all sorts of hay, to keep it sometime in tramp-rucks without, before I carry to the stack-yard. There I give it the sweat, that is both so necessary to its future safety, and also contributes to give it that sweetness and tenderness which makes all cattle so fond of it, and to thrive so well upon it.

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These particulars may receive some further illustration, in the course of what follows.

For the thrashing work we provide (or borrow) four or five ten feet planks, upon which it is performed : under these is laid the largest winnow cloth that can be had ; and if the wind favours, we lay them commonly a-cross a furrow, in order to contain a greater quantity of feed before removing them. Upon the windward end is laid another winnow cloth, or two coarse bed sheets, upon which the lap-cocks are thrown, as they are brought in to supply the thrashing floor. On the leeward end is laid a third cloth, upon which the feed is shaken out of the thrashed hay, after the flails have driven it down the wind, to that end of the thrashing floor. For about four acres of hay ground we provide two thrashers, with two or three flails lying by them, in case of their breaking those in use. It would not be convenient for eight or ten people to wait the mending of a flail. We have one woman on the wind end, to supply the floor with unthrashed cocks, another strong one on the lee end, to shake the hay, and throw it well back behind her, till the tramp-ruckers can begin. We have also four more boys and girls, that are employed to carry in the cocks, and to rake the field. Each of these are furnished with a horse sheet, a coarse table cloth, or any thing proper to carry the hay, and prevent the feed from losing by the way. When it is not too ripe, there is not so much need of these clothes. While the carriage is from the most distant parts of that portion of the field allotted for the floor (for the field is divided into three portions) all the four are employed in supplying the floor. As the distance begins to diminish, one of them takes a rake, to clean what is cleared of the cocks : and thereafter another goes to the raking, as the distance is still lessening. And the matter may be so managed, by an attentive master, that the whole of the first portion may be finished at once, by the time of breakfasting. Then all hands are hurried, in filling up the seed into sacks, which is carried home by the house servants,

as they go to their breakfast ; and spread upon the barn floor without delay.

After breakfast, if there was not leisure before it, the cloths and planks are removed to the most convenient place, in the second portion of the field. There the same operations are carried on, till it also is cleared. And the same are likewise repeated after dinner, till all is thrashed that was allotted for the day.

If the farmer has not seen it necessary at breakfast-time, to provide hands for the tramp-rucking ; before dinner he must be a judge, how far his own people shall be able to accomplish it, against the evening. He may therefore in that interval, if he thinks fit, call in the assistance of a neighbour or two ; to begin the rucking for his evening security. At the same time, it is surprising what work will be done in an hour at night, by a number of hands properly encouraged, and wisely distributed, when you depend upon them for it. Every farmer knows how small a trifle will gratify, and nothing more needs to be said upon that head. My method of distributing the hands is this : While the men fill up and carry home the feed, the women and boys are sent back to the first made heap ; where they begin in two parties to lay the foundation of two tramp-rucks, in the lee side, for the convenience of forking up the hay. When these rucks grow to a height, and begin to be difficult for the young labourers, the men come and take them off their hands, in order to compleat them ; while the young ones go on to begin another pair. Thus a good number of hands, that otherwise might confuse and interrupt each other, do wonderfully well when properly distributed, and animated.

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| In this manner, a four acre field employs the first day, four mowers, and six cockers; at the expence of | L. 0 : 9 : 0 |
| And it employs the second day two thrashers at one shilling, six young people at sixpence each; amounting to about | 0 : 5 : 0 |
| If we should allow for extra-work in rucking, or increase of wages, about | 0 : 2 : 0 |

| | |
|-----------------------------------|-------------|
| The amount for the whole, is only | L. : 16 : 0 |
|-----------------------------------|-------------|

I should think it could scarce cost more, unless the crop is very weighty, when an advanced price will not be grudged. I even think the security, which the farmer may enjoy, in this course of management, worth a great deal more to him than the money itself.

The feed and chaff carried into the barn, is spread upon the floor the first night. Next morning the straw is riddled out of it; and it is laid out again; the farmer throwing it into ridges, as the maltster does his bear from the steep. At evening, he runs the barn shovel through every ridge, to change the places of both ridges and furrows: and this he continues to do alternately every twelve or twenty four hours, as he sees occasion; till he chuses to chaff and clean his feed. If he values his chaff, he needs not be in a hurry to separate it from the feed, as both alike require to be fully dried for keeping. After he puts them through his fanners, if he is very nice with his feed, he may let the feed down in a soft wind, between his doors; where, by the assistance of both his sight and feeling, he can separate the fat grass, and thin ray-grass, to what extent he pleases. He must employ his small sieves, to take out the goose and point grass: the feed of which may be either thrown to the chaff, or made to serve for a feed of oats, when the labour of the horses is but light.

Many of you, my Friends, are fond of saving (as you call it) the field thrashing and tramp-rucking. You therefore carry your feed hay to the barn, to be thrashed there at leisure. I have
already

already given my opinion, and reasons against this conduct : and only add now, that such of you, as think housing and thrashing within a saving to you, would only consider, that what you carry to the barn comes again, and begins to sweat ; in which state it is very difficult to thrash it well. If it is reserved for a leisure, that is a wet time, it can only increase the difficulty, and inflame the charge. If the continued goodness of the weather makes you forget your barn work ; or if you put it off intentionally, till the sweat be over ; you have a chance of being encumbered with it at an improper time. And to crown all, perhaps you run the hazard, with such a bulk of hay together, and in such close confinement, of over-heating it to a degree of rottenness. Look then before you, my Friends, and be not fond of saving one day that will cost you six, and perhaps the value of forty. There is no oeconomy in that conduct.

To all the prudent my advice is, to thrash their ray-grass hay in the field, if they can : and that (tho' there was no other reason for it) for the sake of its standing some time abroad in tramp-rucks. There, as I observed, it should have its sweat, if one would afterwards be secure with it. When I recollect, what I have both read and heard from England, about the pains of their farmers to have their hay properly sweated, (for nothing else will sell in their markets,) and when I consider their difficulty in governing that process in the stack, I cannot but recommend the field tramp-ruck, beyond all other securities. For in a ruck of about 100, or 120 stone, I am certain of heating it properly ; and if I find it to be overdoing itself, I can check it where it stands, without anxiety, or trouble ; and that only by raising any part of it with a common lever, and casting what air I please into it. Indeed, in nine of ten instances, I scarce have found more requisite, to bring the hay of rucks into proper temper, than barely to do, what every farmer, who keeps his hay, must at last do ; and that is only, to carry it from the rucks in the field, to his barn-yard, and there to stack it up for good : for one clear day, with the repeated forkings,

and the spreading of it on the stack, is sufficient to cool it. If more is ever needful, it must have arisen from a blameable precipitancy in rucking or stacking. Were hay in any danger in the lap-cock, there would be some excuse for hastening the rucking : Were hay in any danger in the tramp-ruck, there would be some excuse for hurrying it into the stack. But the security in both these states is such, as should lead no man into any blameable rashness, but such as cannot enjoy their own quiet.

Small rucks, intended for keeping hay any time abroad, I abhor, and must condemn. Nothing keeps hay worse. They either sink down into a flatness, or are tossed over with the wind ; so that I have seen them to the westward, lying more like a muck heap, than a hay quoil ; and that full two months after the hay had been made. They are often the result of making hay in the sun-shine. Huddled together in small quails, at Even rain comes on, and wets them thoroughly ; and there they lye, waiting till heaven work a miracle for their recovery.

We should now take a short turn with the farmer to his meadow grounds. After what has been said upon the tramp-ruck, I need not follow him into his barn-yard. He has managed his rucks ill, if they do not supersede all future care, even of his stack itself, except to put thatch and ropes upon it. If any thing however was needed here, enough has been said in our former letter, to direct the stack-yard management.

Of the Meadows.

One rule, which I invariably observe upon my spritty bog, is, to cut it two or three weeks, before my neighbours cut theirs. Instead of waiting from week to week, till it thickens more at bottom, or lengthens out an inch or two more at top, I trust such additions to the after-math. I am particularly fond of having all hard and coarse hay cut in its greatest and tenderest state. Indeed my whole effort afterwards is, to preserve
that

that greenness and tenderness, by retaining almost all its juices. For this purpose, I suffer it to lye in the swath to dry, two or three days: and I find by experience, that it will, in that state, keep better under the wettest weather, than in any small quoils. Then, pulling out as many of the strongest sprits and rushes, as are necessary for ropes, and even for thatching itself, I turn over the swath, as whole and unbroken as I can: where it again lies sometime, till I can put it in good sizeable hand quoils. I never spread out, or turn it more; unless a storm has discomposed, and wet my quoils. I manage it therefore chiefly by turn quailing; in which operation, two or three little quoils are put together, into one of a larger size. And by repeating the same operation, it gets at last into tramp-rucks: and there it stands to sweat, for two or three weeks, till it can be safely carried and stacked.

Hay never, in my opinion, runs much risk, but in small quoils. And this, when it happens, is corrected, only by throwing down a little of their tops, or, if the ground is wet, by pulling out a little from the edge of their bottoms: and this may be spread out, an hour or two before the turn-quailing. But even this small risk does not please me. To avoid it therefore, I would wish to introduce the lap-cock among those of my neighbours, whose meadow hay will admit of it. It could be done, as was hinted before, by delaying the cocking for a day or two after cutting the hay, and by making the cocks smaller than was directed for ray-grass. But if farmers are unwilling to go to school in their old age, or if they are ever hurried with changeable weather, so that they have not time to put their hay together, either in good hand quoils or lap-cocks, they might try another fresh custom, of greater expedition than the lap-cock, and of better security than the hand quail. It has this advantage to recommend it, beyond any thing quite new and strange, as the servants may have practised it among other useful frolicks. For it is no other than rolling up the swath, as children do a snow ball: which may
be

be done, to any bulk that the present state of the hay will admit of, from two to three feet diameter. I have often tried it with ray-grass by way of experiment: and have found it to keep the hay perfectly well that was rolled up dry, so long as I had occasion to have it in that form. No rain indeed penetrates it to hurt it; so that unless it lies till the natural sap over-heats it, I imagine, it cannot otherwise be hurt; nor would I much suspect the heating itself. But having only made a few balls by way of trial, which generally went up into the tramp-rucks, with the rest of the lap-cocks around them; my proof of them was not, as I remember, above eight or ten days standing; from which I myself can pronounce nothing absolutely decisive.

I am,

My good Friends,

Yours to serve you,

Renfrew-shire. }
March 7th, 1774. }



